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STUDY OF THE TUNISIAN CONSUMER BEHAVIOR TOWARDS THE SUBSTITUTION OF SEED OIL BY ENRICHED OLIVE OIL BY NATURAL EXTRACT AND MARKETING STRATEGY

Abstract. In Tunisia, the consumption of olive oil is the lowest in the Mediterranean region although it is one of the largest producers in the world. Despite the nutritional value of olive oil and its proven ability to prevent cardiovascular disease and certain cancers, local consumption is monopolized by seed oils (mainly soybean oil) subsidized by the state. This work aims to study the attitude of Tunisian consumers towards the substitution of these imported oils by the consumption of olive oil in case of its subsidy and the marketing strategy to adapt for promoting it. The market survey showed that the main cause of the orientation towards imported oils is the price, and that 2/3 of the respondents have seen their consumption of olive oil decrease because of its high price although they look for quality when buying a food product. 65% of respondents showed a positive attitude towards the substitution of seed oils by olive oil enriched with natural extracts of olive leaves by demanding a price not exceeding 5 dt for a liter.

Keywords: Enriched Olive oil, consumption, behavior, survey, marketing strategy.

Introduction:

Olive oil is an essential part of peoples' diet in the Mediterranean region thanks to its flavor and culinary value as well as its nutritional properties and biological effects on human health linked to its natural antioxidants [1].

Tunisia, is one of major producers of olive oil (OO) in the world with an average of 187.000 tons per year and a contribution of 19% in world exports

(IOC, 2020). Unfortunately, this potential is not reflected by the level of national consumption, recording the lowest level in the Mediterranean region (3.4 kg/inhabitant / year [2]). The Tunisian consumer, according to data from NIS (NIS: National Institute of Statistics of Tunisia <http://www.ins.tn/>), shows a preference for imported seed oils (from 6 to 18 kg/inhabit/year between 1990 and 2019), a trend reinforced by the oil policies in Tunisia that

have given priority to the export of OO and have subsidized the prices of these imported oils. Indeed, the evolution of the consumption of total food oils in Tunisia over the past 30 years shows an upward trend in vegetable oils against a stagnation or even a regression on certain periods of olive oil consumption.

There are two types of imported oils on the local Tunisian market: subsidized seed oils (SO) (soybean oil, rapeseed oil) and non-subsidized vegetable oils (NSO) (corn oil, sunflower oil). Today, Tunisia imports an average of 160.000 tons of seed oils per year and the expenditure on subsidies supported by the General Compensation Fund GCF reached about 250 million Dinars in 2019 representing the second most important product after cereals [3].

This policy stabilized the price of subsidized oils (SO) at less than 1/6 of that of olive oil over the past twenty years. This created an important price gap with olive oil has generated changes in consumption habits at the level of social categories particularly those with low incomes showing an increasing orientation towards subsidized vegetable oils (Soy, rapeseed), of low nutritional quality compared to olive oil [4].

On the other hand, during the high production campaigns of olive oil, Tunisian exports are limited by the quota (56700 tons) set by the agreement of the CHTA (Complete free trade agreement) to the European Union the first market of Tunisian OO. This constraint induces a stock of about 15.000 tons (NOO (National oil office of Tunisia), 2021) which makes the promotion of the consumption of this product an obligation to absorb this surplus.

This situation leads to significant losses; at the level of the quality which risks to be deteriorated in the long-term and the selling price which will be decreased, added to the cost of storage.

From a health point of view, diabetes, cardiovascular diseases and cancers are the first causes of mortality in Tunisia [5]. This observation encourages the adoption of a healthy lifestyle of which the diet is a major part to fight more effectively against these diseases.

Olive oil plays a major role in the prevention of risk factors for cardiovascular diseases, such as dyslipidemia, hypertension and diabetes [6]. Therefore, studies carried out in Greece and Harvard have shown a reduction of several types of cancers during the consumption of olive oil such as, breast, colon, epidermis, esophageal and prostate cancers [7].

Consequently, the decision makers of the olive sector in Tunisia are called to promote the consumption of olive oil, by several ways.

A solution that could improve this situation, the stabilization of olive oil by its enrichment with natural extracts of plants in order to preserve its quality and consequently absorb the stock in case of trouble of liquidation on the local and international market. This way has been the subject of several studies [8; 9; 10] and upstream its effectiveness during storage. Moreover it could encourage the Tunisian consumer to substitute seed oils by olive oil especially that its price will be lower than that of an oil of the current year.

However, the studies of the attitude of the consumers towards these products remain limited. Consequently, it is necessary to start first by a study of the behavior of the Tunisian consumer towards an enriched and stabilized olive oil, with lower price.

Indeed, behavior is the way we act or react to a situation. The study of consumer behavior helps on decision-making, brand positioning, advertising strategies and the choice of distribution channels. Studying consumer behavior is an indispensable tool because it helps guide a company's business decisions and reduce uncertainty about the choice of target consumers [11].

Faced with these circumstances, several questions arise: What are the factors influencing the Tunisian consumer choice when buying a food product? Is he ready to substitute seed oil by a new functional olive oil with a lower price? Moreover, what price could encourage him to do it?

In this context, a study of the behavior of Tunisian consumer vis-à-vis edible oils was conducted to analyze the possibility of replacing imported seed oils by this new product, to try to determine an encouraging

price level and to build a strategy for developing its consumption based on marketing tools.

I. Methodology

In this study, the consumer survey was conducted face-to-face, in supermarkets, public gardens, and colleges. This approach allows to reach a large spectrum of consumers, and to touch different age and social categories, geographically dispersed. The socio-economic survey on the behavior of the Tunisian consumer towards olive oil and the factors influencing his choice was carried out in five stages:

- The development of the questionnaire according to the objectives of the survey, previously defined;
- The collection of the answers;
- The analysis of the results by the statistical software SPSS (version 23.0);
- Identification of target customers through market segmentation;
- Elaboration of an adapted marketing strategy.

The processing of the survey data was carried out according to two methods.

1.1. The one-dimensional method (flat sorting)

This method represents univariate distributions giving the relative frequencies of each variable and constitutes the simplest examples of statistical tables. These tables are of great importance for reading quantitative data [12].

1.2. The two-dimensional method (cross-tabulation)

After coding the answers in a form suitable for execution by the SPSS software (version 23.0), this method represents distributions with two variables. It consists of crossing the results of two variables in pairs (cross-tabulations, or two-dimensional cross-tabulations or double entry tables) in order to determine whether there is a significant correlation between two defined variables [12].

2. Results and discussion:

2.1. Sample description:

The sample studied by our survey is composed of 400 people. The data mentioned in the question-

naire, such as gender, age, socio-professional category and geographical area, allow to identify the characteristics of the spectrum surveyed.

The sample is divided into 63.9% women and 36.1% men, with a majority aged between 25 and 40 years (59.1%).

The results of the survey show that 33.1% of respondents are executives, 37% students and 15% employees which explains that 92% of them have a high level of education. These results can give a logical overview of the attitude of the Tunisian consumer towards the consumption of olive oil, especially since more than 60% of respondents are responsible for the purchase of food products in their family. The geographical origin of respondents is diversified which allows to expand the target and reach consumers in regions producer or not olive oil.

2.2. Market study results:

2.2.1. Olive oil Consumption:

Results showed that 97.3% of the respondents consume olive oil against 2.7% who do not.

Regarding the purchase motivations, 166 respondents are looking for good quality when buying a food product and in particular for olive oil and 103 answers assert the requirement of quality and taste for the choice of food products. However, 139 of the interviewees stated that they consume olive oil by habit or family tradition. Those who do not consume olive oil explain this choice mainly by its high price (Figure1).

This result encourages the new olive oil consumption, and an opportunity to attract consumers on the local market by the quality of olive oil which will be stabilized and improved by natural extract [10] and by the price which will be lower than that of an olive oil of the current campaign.

Indeed, 72% of current olive oil consumers in Tunisia, justify their brand choice by the quality-price ratio. In addition, 47% of consumers prefer organic extra virgin olive oil. This new concern for health and the regression of purchasing power represent a favorable asset for the consumption of this new product.

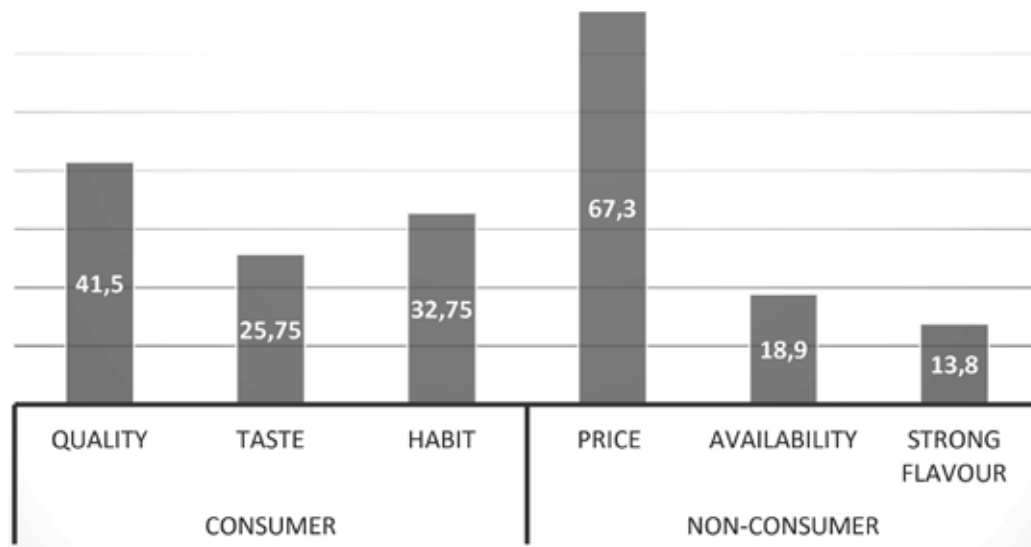


Figure1. reason for the choice of consumption or not of olive oil

With regard to the frequency of olive oil consumption, we find that 50.7% of interviewees consume it frequently, largely (91%) for seasoning, but for cooking the Tunisian uses imported oils (36% seed oil and 45% subsidized soybean oil).

Packaged olive oil does not yet attract the Tunisian consumer probably because of its high price compared to bulk olive oil.

It should be noted that 67% of respondents have seen their consumption decrease in the last two years, mainly because of its high price (52%) and the loss of its quality during storage (18.3%).

In order to understand consumer behavior towards enriched and stored olive oil, we asked a question about the willingness to substitute seed oil with a stored and enriched olive oil with natural extracts from olive leaves at a price below the current market price. The attitude of consumers is favorable because 64.9% of the sample show a positive or very positive attitude, against 22% who are still neutral and the rest of consumers seem attached to their habits. This shows that the decision to put on the market new categories of olive oil is appreciated by more than 2/3 of consumers.

Regarding the price, the majority of consumers demand a price between 3 and 5 DT for a liter of new olive oil.

2.2.2. Results using the cross-tabulation method: Bivariate analysis

The analysis of the investigation data was carried out using the bivariate or bidimensional method. This method was adapted to determine whether there is a significant correlation between two variables in order to better understand and manage the issues that reside between the different parameters. The coefficient calculated is the Pearson coefficient which is an index reflecting a linear relationship between two continuous variables taken in pairs. This correlation coefficient varies between -1 and $+1$. A negative value (negative correlation) means that the two variables are inversely proportional and a positive value indicates that the two variables move in the same direction. A significance level ($p < 0.05$) reflects a significant relationship between these two variables. On the contrary, a significance level higher than 0.05 ($p > 0.05$) indicates a lack of relationship between these two variables.

In the context of our study, the objective of applying this method is to investigate the determinants of the purchase decision of an extra virgin olive oil stored and stabilized by the phenolic extracts of olive leaves (Arfaoui et al. [10]). The correlation between the attitude of the consumer towards the new product, and his age in the first place, his income in the

second place and the frequency of purchase of olive oil to be able to determine the target.

The results showed a positive Pearson's coefficient for the correlations attitude-income and attitude-age (table 1). This shows that consumer in-

Table 1. – Bivariate correlations attitude-income; attitude-age; attitude-frequency of purchase

	Income		Age		Purchase frequency	
	Pearson Coefficient	Sig (bilatérale)	Coefficient Pearson	Sig (bilatérale)	Coefficient Pearson	Sig (bilatérale)
Behaviour	0.22	0.006	0.14	0.04	-0.008	0.23

All studied variables are significant at the 5% level. The negative correlation between the preference for the new product and the frequency of purchase of olive oil shows that the subjects who do not consume olive oil frequently are the most interested in this product, which may be related to its price which will be lower than the current price of oil. This category constitutes an opening to recruit new consumers of olive oil.

2.3. Marketing strategy:

The objective of any company is to improve its profits by increasing sales. It is therefore necessary to stimulate demand in order to attract new customers or to offer new opportunities to current customers. Stimulating demand requires a process of reflection that leads to practical actions on some or all of the elements of the marketing mix (products, promotion, distribution and price), to guarantee the effectiveness of these actions, we must study the consumer's behavior in order to know his profile, his needs, his tastes, his perceptions and his criteria of choice.

It is important for the company, even before putting a product or service on the market, to learn about the real needs of consumers and to design the product or service according to their needs, then the information collected allows to develop effective marketing strategies, which has been done in the above.

These strategies include promotional tools, distribution methods and sales techniques aimed at highlighting products and services and therefore stimulating demand.

come and the purchase of this new stabilized olive oil are proportional. In addition, older people show a positive attitude towards this product than younger ones who are generally not interested in the nutritional side of food.

In all cases, marketing decisions must be based on a perfect knowledge of needs, desires, buying habits, and the decision-making process. Any decisions that fall outside this rule can lead to problems that are even irreparable for organizations. Our market research allowed us to determine the profile of target customers, their preferences and expectations and to establish an appropriate marketing mix strategy. The marketing mix brings together four fundamental elements known as the 4 Ps: Price, Place, Promotion and Product.

The marketing mix is the choice, the dosage and the combination of the means with which the company wishes to act on the market. Given the number of these means, even after having grouped them into four groups, it will be necessary to proceed with an arbitration, notably when allocating resources.

From the correlations studied between the predisposition to buy enriched and subsidized olive oil and the profile of the consumer, we can recommend targeting a female clientele, with a moderately high income and belonging to a more or less high socio-professional category. Indeed, these characteristics were found to be associated with the purchase decision and the favorable attitude towards stabilized olive oil. On the other hand, the taste, smell, color, and high nutritional value of the product and its stability over time will offer a differential advantage over existing products on the market and additional value for future consumers.

Regarding the marketing strategy, it should emphasize the promotion and awareness of consumers through advertising at the point of sale and specialized media (magazine, internet, multimedia ...) of the benefits of olive oil consumption. In this regard, it would be appropriate to create an identity to this product to promote it in the range of extra virgin olive oil appreciated nationally and internationally.

Regarding the places of distribution, our survey has noted the impact of the non-availability of the product on the decision to buy. Hence, it is recommended to expand the places of sale of our product in supermarkets, points of sale of specialized dietetic stores. The volume sought is that of small bottles in tourist areas, supplements in bags in restaurants and small cubes in general.

Conclusions:

Social policies applied in Tunisia are largely linked to measures of subsidies and pricing of basic necessities such as edible oils, the price and income effect of which are decisive in consumer decisions. This explains, despite the benefits of olive oil on health, the orientation of the Tunisian consumer towards imported seed oils, a large part of which is subsidized by the state.

Therefore, the consumer should be able to access the local product at reasonable prices. The launching of an olive oil enriched by the natural extracts of olive leaves, on the local market, could be a solution to

encourage the consumption of olive oil. Moreover, this product has been proposed as an alternative to the seed oils and to the olive oil of the current campaign having a high price compared to the purchasing capacity and could constitute a solution to promote local consumption and absorb the annual stock (15.000 tonnes on average) during high production seasons.

The objective of this work was to study the attitude of the Tunisian consumer towards this product, and the factors influencing his choices. The results showed a positive attitude towards this product of about 65% of the interviewees. The most attracted tranche are mainly women, and older people with a middle income.

The availability of olive oil and its access seems to be among the factors that discourage the purchase after the price. The marketing strategy proposed according to the correlations found, targets first the price reduction compared to the recently processed olive oil.

Concerning the place, this new product could be commercialized in the restaurants as a supplement with the sandwiches, in the tourist zones, in the air companies and by delivery at home by order on Internet site, this to target the maximum of customers.

The final objective could only be achieved by making consumers aware of the health benefits of olive oil and olive leaf extracts.

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